# CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

JAS-ANZ BSCIC ISO 9001 REGISTERED


Job No.: CTCE/BBMP/WNo.12/KRIDL/CEMENT/2013-14

Date: 09.05.2013

## TEST REPORT

| | | |
|---|---|---|
| CLIENT | : | **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore. |
| AGENCY | : | **Technical Manager (West),** KRIDL, PIU, Bangalore. |
| NAME OF THE WORK | : | Construction of culverts at Kammagondanahalli Area in Shettyhalli Sub Division, Ward No. 12, under 22.75% grant, BBMP, Bangalore. |
| REFERENCE | : | BBMP/AEE/SSD/DZ/PR/2013-14 Dated: 06.05.2013 |
| SAMPLE ID | : | CEMENT |
| SAMPLES SUPPLIED BY | : | AGENCY |

The results of the tests conducted on the cement sample are as follows:

| Sl.No | Descriptions | Test Method as per IS | Test Result | Requirements as per IS: 8112-1989 |
|---|---|---|---|---|
| 1 | a) Initial Setting Time | IS-4031 (Part -5) | 169 Minutes | Not Less than 30 Minutes |
| | b) Final Setting Time | IS-4031 (Part -5) | 492 Minutes | Not More than 600 Minutes |
| 2 | Soundness | IS-4031 (Part 3) by the Le-Chatelier method | 1 mm | Not more than 10 mm |
| 3 | Standard Consistency | IS-4031 (Part -4) | 30.00 % | - |

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Job No.: CTCE/BBMP/WNo.12/KRIDL/SAND/2013-14 : 09.05.2013

## TEST REPORT ON FINE AGGREGATES (SAND)
IS 383-1970 (RA- 2002)

**Client** : **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

**Agency** : **Technical Manager (West),** KRIDL, PIU, Bangalore.

**Name of Work** : Construction of culverts at Kammagondanahalli Area in Shettyhalli Sub Division, Ward No. 12, under 22.75% grant, BBMP, Bangalore.

**Reference** : BBMP/AEE/SSD/DZ/PR/2013-14 Dated: 06.05.2013

Date of Testing : 09.05.2013

Material : Sand Total Wt. of Aggregates in gms **2000**

| Is Sieve Size in mm | Weight Retained (gm) | Retained Weight in % | Cumulative Retained Weight in % | Cumulative Weight Passing in % | Spec.Limits For Zone-II |
|---|---|---|---|---|---|
| 10 | 0 | 0 | 0 | 100 | 100 |
| 4.75 | 89 | 4.45 | 4.45 | 95.6 | 90-100 |
| 2.36 | 263 | 13.15 | 17.60 | 82.4 | 75-100 |
| 1.18 | 492 | 24.60 | 42.20 | 57.8 | 55-90 |
| 600 Micron | 389 | 19.45 | 61.65 | 38.4 | 35-59 |
| 300 Micron | 478 | 23.90 | 85.55 | 14.5 | 8-30 |
| 150 Micron | 159 | 7.95 | 93.50 | 6.5 | 0-10 |

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Job No.: CTCE/BBMP/WNo.12/KRIDL/AGG/2013-14 : 09.05.2013

## TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

**Client** : **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

**Agency** : **Technical Manager (West),** KRIDL, PIU, Bangalore.

**Name of Work** : Construction of culverts at Kammagondanahalli Area in Shettyhalli Sub Division, Ward No. 12, under 22.75% grant, BBMP, Bangalore.

**Reference** : BBMP/AEE/SSD/DZ/PR/2013-14 Dated: 06.05.2013

Date of Testing : 09.05.2013

Material : 40mm Aggregates

Total Wt. of Aggregates in gms **25400**

| Is Sieve Size in mm | Weight Retained (gm) | Retained Weight in % | Cumulative Retained Weight in % | Cumulative Weight Passing in % | Spec.Limits |
|---|---|---|---|---|---|
| 80 | 0 | 0 | 0 | 100 | 100 |
| 40 | 959 | 3.78 | 3.78 | 96.22 | 95-100 |
| 20 | 16387 | 64.52 | 68.29 | 31.71 | 30-70 |
| 10 | 4998 | 19.68 | 87.97 | 12.03 | 10-35 |
| 4.75 | 2545 | 10.02 | 97.99 | 2.01 | 0-5 |

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Job No.: CTCE/BBMP/WNo.12/KRIDL/STEEL/2013-14 10.05.2013

## TEST REPORT ON REINFORCEMENT STEEL

| | | |
|---|---|---|
| Client | : | **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore. |
| Agency | : | **Technical Manager (West),** KRIDL, PIU, Bangalore. |
| Name of the work | : | Construction of culverts at Kammagondanahalli Area in Shettyhalli Sub Division, Ward No. 12, under 22.75% grant, BBMP, Bangalore. |
| Reference | : | BBMP/AEE/SSD/DZ/PR/2013-14 Dated: 06.05.2013 |
| Date of Test | : | 10.05.2013 |
| Technical Reference | : | IS: 1786-2008 |

| Sl. No | Nominal size (dia) (mm) | Mass per metre (Kg/mtr) | TENSILE STRENGTH | | | Bend Test | Rebend Test |
|---|---|---|---|---|---|---|---|
| | | | 0.20% proof stress/Yield stress N/mm² | Tensile strength (Ultimate stress) N/mm² | Elongation percent gauge length | | |
| 1 | 12 | 0.89 | 517 | 550 | 13.10 | O.K | O.K |
| 2 | 16 | 1.58 | 521 | 553 | 13.25 | O.K | O.K |

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ಶೆಟ್ಟಿಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ,
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

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Job No.: CTCE/BBMP/WNo.12/KRIDL/CUBE/2013-14

20.06.2013

## TEST REPORT ON CONCRETE CUBES

| | |
|---|---|
| Client | : **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore. |
| Agency | : **Technical Manager (West),** KRIDL, PIU, Bangalore. |
| Name of the work | : Construction of culverts at Kammagondanahalli Area in Shettyhalli Sub Division, Ward No. 12, under 22.75% grant, BBMP, Bangalore. |
| Reference | : BBMP/AEE/SSD/DZ/PR/2013-14 Dated: 06.05.2013 |
| Sample ID | : Coping Concrete |
| Size of cubes | : 150mmx150mmx150mm |
| Cross Sectional Area | : 22500 $mm^2$ |
| Technical Reference | : IS: 516-1959 (Reaffirmed 2008) |
| Grade of Concrete | : $M_{15}$ |
| Compressive Strength as on | : $28^{th}$ day |

| Sl.No. | Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 23.05.2013 | 20.06.2013 | 8.086 | 358.9 | 15.95 |
| 2 | 23.05.2013 | 20.06.2013 | 8.138 | 372.6 | 16.56 |
| 3 | 23.05.2013 | 20.06.2013 | 8.249 | 393.2 | 17.48 |

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Job No.: CTCE/BBMP/WNo.12/KRIDL/CUBE/2013-14 26.06.2013

## TEST REPORT ON CONCRETE CUBES

| | |
|---|---|
| Client | : **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore. |
| Agency | : **Technical Manager (West),** KRIDL, PIU, Bangalore. |
| Name of the work | : Construction of culverts at Kammagondanahalli Area in Shettyhalli Sub Division, Ward No. 12, under 22.75% grant, BBMP, Bangalore. |
| Reference | : BBMP/AEE/SSD/DZ/PR/2013-14 Dated: 06.05.2013 |
| Sample ID | : Culvert Deck Slab Concrete |
| Size of cubes | : 150mmx150mmx150mm |
| Cross Sectional Area | : 22500 $mm^2$ |
| Technical Reference | : IS: 516-1959 (Reaffirmed 2008) |
| Grade of Concrete | : $M_{20}$ |
| Compressive Strength as on | : $28^{th}$ day |

| Sl.No. | Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 29.05.2013 | 26.06.2013 | 8.238 | 479.5 | 21.31 |
| 2 | 29.05.2013 | 26.06.2013 | 8.359 | 504.7 | 22.43 |
| 3 | 29.05.2013 | 26.06.2013 | 8.462 | 519.9 | 23.11 |

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